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Rachel Schmeltz
ENERGY STAR Program Manager
United States Environmental Protection Agency
1310 L Street, NW
Washington, DC 20005

RE: Draft 2 Partner Commitments and Eligibility Criteria for ENERGY STAR qualified Air Source Heat Pumps and Central Air Conditioners

Dear Ms. Schmeltz:

Mitsubishi Electric & Electronics USA, Inc., (MEUS) a leading provider of ductless split system air conditioners and heat pumps to residential and commercial entities in the United States, respectfully submits these comments to the US Environmental Protection Agency (EPA) regarding the above matter.

We strongly support EPA's initiative revising the program criteria to permit the inclusion of ductless split-system for eligibility in the ENERGY STAR program for the following reasons:

1. Ductless Split Systems are Subject to the Same Testing Standards as Central Air Conditioners.

As EPA correctly notes, ductless mini-split equipment is categorized among central air conditioning systems according to ARI 210/240. Central air conditioning systems have long been included as ENERGY STAR eligible products. Provided that ductless systems perform according to the energy efficiency standards specified by EPA, they should not be excluded from ENERGY STAR eligibility since they are subject to the same testing conditions as central air conditioning systems and air sourced heat pumps.

2. Ductless Split Systems Are More Efficient Than Room Air Conditioners.

Relatively inefficient room air conditioners have also long been eligible for the ENERGY STAR program despite performance data demonstrating that ductless systems conserve and distribute cooling and heating on a more efficient basis. A primary reason that ductless system sales continue to grow in the US is that consumers are increasingly turning to our technology as an attractive alternative to inefficient room air conditioners. Excluding ductless split systems discourages both residential and commercial entities from considering our technology and its proven effective use of energy.

3. Ductless Systems Delivered Efficiencies are Higher than Tested.

The installed or delivered efficiency of ductless split systems are higher than their tested efficiencies. Central systems, however, will lose efficiency due to duct loss and higher fan watts to match the needs of the duct system. Central air conditioners and air sourced heat pumps deliver conditioned air from a centrally located air-handler through ductwork to the space to be conditioned. According to Department of Energy analysis, however, typical ducted systems lose approximately 25 to 40 percent of the heating or cooling energy through duct losses related to conduction and air leakage. Ductless products, in contrast deliver all of

the conditioned air to the occupied space. This distinction in energy consumption is not recognized in the test procedure. As a result, the actual efficiency of a ductless unit rated at 10 SEER, for instance, is typically equivalent to, or even higher than, the actual efficiency of a ducted unit rated at 12 SEER.

4. Installation Issues Not a Significant Factor for Ductless Split Systems.

Ductless split systems are installed very easily and are set-up almost like they are tested with the only installation variable being the length or the refrigerant lines. Ductless split systems insulate both refrigerant lines while for central split systems only the suction line is insulated. The plus for “installed” vs. “tested” ductless systems is that they installed systems used the system remote controller that allows the system to operate more effectively since this factory matched control is not used during testing.

Central Systems are not tested as they are installed. The test room conditions are controlled to allow manufactures to maximize their ratings. The ductwork is minimal and would not include many branches or flex-duct. The manufacturers can vary the air-flow from 350 to 450 cfm and the external static pressure can be as low as 0.10” water-column when normal installation is between 0.35” to 0.5” ESP.

Central systems have the possibility of numerous combinations of outdoor unit with indoor air-handler, indoor coil and thermostat. There are so many possible combinations that manufacturers must declare a Highest Sales Volume Tested combination, which does not include the thermostat. The system installed will probably have an efficiency that was computer generated and not tested. Additionally, central system outdoor units can be matched-up with third party indoor coils, air handlers and thermostats.

For the reasons outlined above, we applaud EPA’s initiative in specifying ductless split system eligibility for the ENERGY STAR program. We appreciate your consideration of our views. Please feel free to contact me if you have any questions.

Any questions or comments please contact me at 678-376-2923 or pdoppel@hvac.mea.com.

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